

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
TYLER DIVISION**

OPTICAL COMMUNICATION  
PRODUCTS, INC.,

Plaintiff,

v.

FINISAR CORPORATION,

Defendant.

Case No.

**COMPLAINT**

**DEMAND FOR JURY TRIAL**

**OPTICAL COMMUNICATION PRODUCTS, INC.'S COMPLAINT**

Plaintiff Optical Communication Products, Inc. ("OCP"), by counsel, alleges as follows:

**PARTIES**

1. Plaintiff OCP is a Delaware corporation having a principal place of business at 46335 Landing Parkway, Fremont, California 94538. OCP is a wholly-owned subsidiary of Oplink Communications, Inc.

2. Defendant Finisar Corporation ("Finisar") is a Delaware corporation doing business in this judicial district and operating out of a facility located at 600 Millenium Drive, Allen, Texas 75013-2791, and has a principal place of business at 1389 Moffett Drive, Sunnyvale, California 94089-1134.

**JURISDICTION AND VENUE**

3. This is a civil action for patent infringement arising under the United States patent statutes, 35 U.S.C. § 1 *et seq.*

4. This Court has jurisdiction over the subject matter of this action under 28 U.S.C. §§ 1331 and 1338(a).

5. Finisar is subject to this Court's personal jurisdiction because it does and has done substantial business in this State and judicial district, including: (i) designing and manufacturing many components, including all of the short wavelength VCSEL lasers incorporated in transceivers used for LAN/SAN applications; (ii) selling laser and sensor products within this State and in the District; (iii) employing a full-time staff, including engineers, at its manufacturing facility in Allen, Texas; and (iv) regularly doing or soliciting business, engaging in other persistent courses of conduct, and/or deriving substantial revenue from goods used or consumed by, and services provided to, individuals in this State and in this District. In addition, Finisar has authorized distributors in the State of Texas and describes its Allen, Texas facility as providing "principal manufacturing operations for our AOC [Advanced Optical Components] division."

6. Venue is proper in this judicial district under 28 U.S.C. §§ 1391(b)-(c) and 1400(b).

#### **VERTICAL-CAVITY SURFACE-EMITTING LASERS**

7. Technology at issue in this matter relates to the design of lasers and their components. For example, technology at issue here relates to how Vertical-Cavity Surface-Emitting Lasers ("VCSELs") work.

8. VCSELs get their name because, unlike edge-emitting lasers that emit radiation parallel to the surface of the chip, the output beam is perpendicular to the top surface. VCSELs offer many advantages compared to edge-emitting lasers. VCSELs have a lower temperature sensitivity, require lower threshold currents to enable high-density arrays, and have a lower beam divergence compared to edge-emitting lasers. In addition, VCSELs are usually cheaper to

manufacture because, as a result of emitting from the top of the surface of the chip, they can be processed using 2-D arrays, not just 1-D arrays.

9. VCSELs require highly reflective mirrors to be efficient. In edge-emitting lasers, the reflectivity of the facets is about 30%. For VCSELs, the reflectivity for low threshold currents is greater than 99%. Typically, such a high reflectivity is not effectively achieved by the use of metallic mirrors. Such a high reflectivity is normally achieved by employing Distributed Bragg Reflector (“DBR”) mirrors. DBR mirrors are generally formed by laying down alternating layers of different optical materials with different refractive indices.

10. Early VCSEL devices had metallic mirrors with resulting high threshold current densities, which needed cooling using liquid Nitrogen. A shift away from metallic mirrors started in 1983, with the pulsed room temperature VCSELs being produced in the laboratory one year later. Today, VCSELs have many applications. Due to the short resonator round-trip time, VCSELs can be modulated with frequencies well in the gigahertz range. This makes them useful as transmitters for optical fiber communications. Another application area which has acquired a large market volume is that of computer mice. A laser mouse with a VCSEL as light source can have high tracking precision combined with a low electricity consumption, as is important for battery-powered devices. Another prominent field of application is gas sensing with wavelength-tunable VCSELs. Such devices are built having a separate output coupling mirror the position of which can be tuned via thermal expansion, electrostatic forces, or a piezoelectric element. VCSELs can also be used in miniature optical clocks, where the laser beam probes an atomic transition in cesium vapor. Such clocks could become part of compact GPS devices.

### **FINISAR'S VCSEL ACTIVITY IN TEXAS**

11. Defendant Finisar sells VCSELs for various applications. According to Finisar's most recent annual report "all of the short wavelength VCSEL lasers used in our LAN and SAN products are currently produced at our facility in Allen, Texas."

12. After investing more than \$13 million to renovate the facility, Finisar hosted the ribbon-cutting ceremony at its new plant in Allen, Texas on October 10, 2006. The state-of-the-art facility includes metalorganic chemical vapor deposition reactors and automated assembly for VCSELs.

13. When the facility first opened, it employed over 300 employees and shipped hundreds of thousands of laser and sensor products each week. Allen, Texas is currently home to Finisar's "principal manufacturing operations for our AOC division." Before the Allen, Texas facility was opened, the Advanced Optical Components division of Finisar had already shipped over 50 million lasers in just ten years.

14. On its publicly-available VCSEL datasheets, Finisar notes that Allen, Texas is the location of its business unit headquarters, VCSEL wafer growth, wafer fabrication and TO package assembly. The datasheets also list a 214 area code for Finisar's direct phone line and fax numbers. Allen, Texas phone numbers have a 214 area code.

### **THE PATENTS-IN-SUIT**

15. On September 14, 1993, the United States Patent and Trademark Office duly and legally issued United States Patent No. 5,245,622 ("the '622 Patent"), entitled "Vertical-Cavity Surface-Emitting Lasers with Intra-Cavity Structures." OCP is the sole owner of the '622 Patent. The '622 patent is attached as Exhibit A to this Complaint.

16. On April 13, 2004, the United States Patent and Trademark Office duly and legally issued United States Patent No. 6,720,585 (“the ‘585 Patent”), entitled “Low Thermal Impedance DBR for Optoelectronic Devices.” OCP is the sole owner of the ‘585 Patent. The ‘585 patent is attached as Exhibit B to this Complaint.

17. On October 26, 2004, the United States Patent and Trademark Office duly and legally issued United States Patent No. 6,810,065 (“the ‘065 Patent”), entitled “Low Electrical Resistance N-Type Mirrors for Optoelectronic Devices.” OCP is the sole owner of the ‘065 Patent. The ‘065 patent is attached as Exhibit C to this Complaint.

18. On November 9, 2004, the United States Patent and Trademark Office duly and legally issued United States Patent No. 6,816,642 (“the ‘642 Patent”), entitled “Apparatus and Methods for Using Fiber Optic Arrays in Optical Communication Systems.” OCP is the sole owner of the ‘642 Patent. The ‘642 patent is attached as Exhibit D to this Complaint.

19. On May 28, 1996, the United States Patent and Trademark Office duly and legally issued United States Patent No. 5,521,736 (“the ‘736 Patent”), entitled “Control Circuits for Parallel Optical Interconnects.” OCP is the sole owner of the ‘736 Patent. The ‘736 patent is attached as Exhibit E to this Complaint.

## **COUNT I**

### **(PATENT INFRINGEMENT OF THE ‘622 PATENT BY FINISAR)**

20. OCP realleges and incorporates by reference paragraphs 1-19 of this Complaint as if fully set forth herein.

21. OCP is the sole holder of the entire right, title, and interest in the ‘622 Patent.

22. Finisar has infringed and continues to infringe under 35 U.S.C. § 271 one or more claims of the patent identified in paragraph 15 of this Complaint by making, using, offering to

sell, importing, and/or selling, or assisting, abetting, and encouraging others with making, using, offering to sell, selling, and/or importing in and into the United States Vertical-Cavity Surface-Emitting Laser products that embody the patented invention, including without limitation its HFE419x and HFE408x series products.

## **COUNT II**

### **(PATENT INFRINGEMENT OF THE '585 PATENT BY FINISAR)**

23. OCP realleges and incorporates by reference paragraphs 1-22 of this Complaint as if fully set forth herein.

24. OCP is the sole holder of the entire right, title, and interest in the '585 Patent.

25. Finisar has infringed and continues to infringe under 35 U.S.C. § 271 one or more claims of the patent identified in paragraph 16 of this Complaint by making, using, offering to sell, importing, and/or selling, or assisting, abetting, and encouraging others with making, using, offering to sell, selling, and/or importing in and into the United States Vertical-Cavity Surface-Emitting Laser products that embody the patented invention, including without limitation its 8 Gbps HFE7192x series products.

## **COUNT III**

### **(PATENT INFRINGEMENT OF THE '065 PATENT BY FINISAR)**

26. OCP realleges and incorporates by reference paragraphs 1-25 of this Complaint as if fully set forth herein.

27. OCP is the sole holder of the entire right, title, and interest in the '065 Patent.

28. Finisar has infringed and continues to infringe under 35 U.S.C. § 271 one or more claims of the patent identified in paragraph 17 of this Complaint by making, using, offering to sell, importing, and/or selling, or assisting, abetting, and encouraging others with making, using,

offering to sell, selling, and/or importing in and into the United States Vertical-Cavity Surface-Emitting Laser products that embody the patented invention, including without limitation its HFE419x-441 products.

#### **COUNT IV**

##### **(PATENT INFRINGEMENT OF THE '642 PATENT BY FINISAR)**

29. OCP realleges and incorporates by reference paragraphs 1-28 of this Complaint as if fully set forth herein.

30. OCP is the sole holder of the entire right, title, and interest in the '642 Patent.

31. The '642 patent relates to Active Optical Cables. An Active Optical Cable is a cabling technology that accepts electrical inputs but uses optical fiber between the connectors. The connectors of an Active Optical Cable typically contain a transceiver.

32. Finisar has infringed and continues to infringe under 35 U.S.C. § 271 one or more claims of the patent identified in paragraph 18 of this Complaint by making, using, offering to sell, importing, and/or selling, or assisting, abetting, and encouraging others with making, using, offering to sell, selling, and/or importing in and into the United States Active Optical Cable products that embody the patented invention, including without limitation its Breakout Active Optical Cable product that Finisar demonstrated at the SuperComputing 2009 exhibition.

#### **COUNT V**

##### **(PATENT INFRINGEMENT OF THE '736 PATENT BY FINISAR)**

33. OCP realleges and incorporates by reference paragraphs 1-32 of this Complaint as if fully set forth herein.

34. OCP is the sole holder of the entire right, title, and interest in the '736 Patent.

35. The '736 patent relates to control circuits for parallel optical interconnects. On information and belief, Finisar incorporates said control circuits in certain of its Active Optical Cable products.

36. Finisar has infringed and continues to infringe under 35 U.S.C. § 271 one or more claims of the patent identified in paragraph 19 of this Complaint by making, using, offering to sell, importing and/or selling, or assisting, abetting, and encouraging others with making, using, offering to sell, selling, and/or importing in and into the United States Active Optical Cable products that embody the patented invention, including without limitation certain C.wire series products.

#### **REQUEST FOR RELIEF**

WHEREFORE, Plaintiff OCP respectfully requests the following relief:

A. A judgment holding Finisar liable for infringement of the patents identified in paragraphs 15-19 of this Complaint and as set forth in the counts in paragraphs 20-36 of this Complaint;

B. An accounting for damages resulting from Finisar's infringement of the patents identified in paragraphs 15-19 of this Complaint and as set forth in the counts in paragraphs 20-36 of this Complaint, together with pre-judgment and post-judgment interest;

C. Preliminarily and permanently enjoining Finisar, its officers, agents, servants, employees, attorneys and all person in active concert or participation with them from further infringement of the patents identified in paragraphs 15-19 of this Complaint and as set forth in the counts in paragraphs 20-36 of this Complaint;

D. A judgment holding this Action an exceptional case, and an award to Plaintiff OCP for its attorneys' fees and costs pursuant to 35 U.S.C. § 285; and



E. Such other relief as the Court deems just and equitable.

Dated: March 7, 2011

*s/ Wayne O. Stacy*

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